

# optimo·locus

Number 5

The Newsletter of the Montana Natural Heritage Program

Fall 2002

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## What's New On Our Website:

<http://nhp.nris.state.mt.us/>  
New Reports

Movements and Mortality of American White Pelicans Fledged in Three Montana Colonies, June 2002

Ecological Inventory of Wetland Sites in the Thompson-Fisher Conservation Easement, May 2002

Plant Species of Concern and Plant Associations of Powder River County, Montana, October 2002

## Community Ecology

Montana Natural Community List  
Field Guide to selected communities  
NatureServe community information Link  
Montana GAP Analysis Land Cover Atlas  
Aquatic Plant Community Information  
Montana Wetlands Legacy website

## NRIS Website

State-wide Digital Ortho Quarter Quads (air photos) are now available on the NRIS website

## State-wide Weed Information Now Available

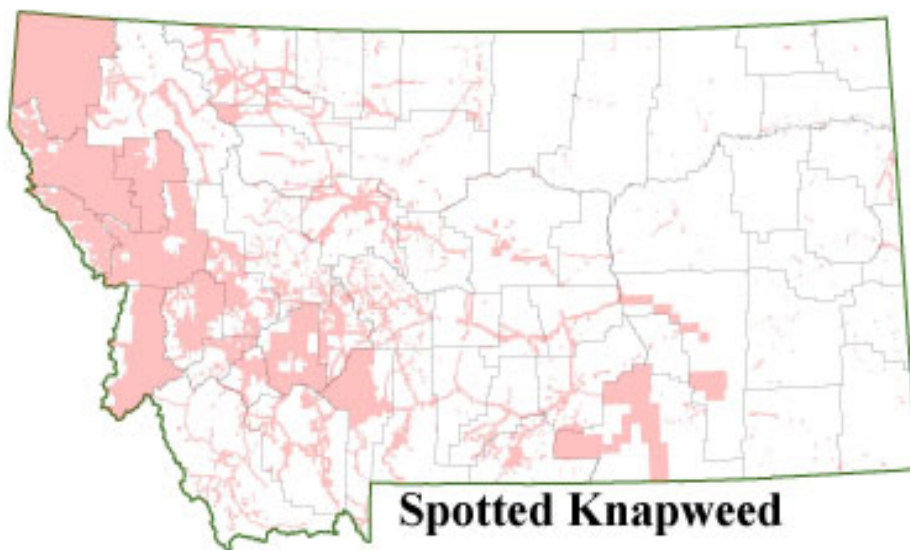
As most people in Montana know, we have a severe noxious weed problem. The Natural Heritage Program (NHP) has recently been invited to sit on the Montana Noxious Weed Mapping Task Force. As part of that effort, NHP and Natural Resource Information System (NRIS) staff have worked with the Montana Department of Agriculture to make state-wide weed mapping data available through the NRIS Thematic Mapper.

In spring of 1997, the Montana Noxious Weed Trust Fund requested that the Weed Survey and Mapping System Project at Montana State University take on a special activity, focused on surveying the distribution of five important noxious weeds within Montana counties. The section-based project provides statewide data more quickly than a detailed mapping effort. It was created with several goals: to produce useful distribution data for leafy spurge, Dalmatian toadflax, sulfur cinquefoil,

Russian knapweed, and spotted knapweed; to record for each section in each county the status of each of the weeds: present, absent or status unknown; to accurately calculate the total number of sections infested for the five selected weeds; and to provide the results on section-based maps for each county. (from the Montana Noxious Weed Survey and Mapping System website at <http://www.montana.edu/places/mtweeds/>)

The NRIS Thematic Mapper now includes state-wide information on five Category I noxious weeds: Leafy Spurge (*Euphorbia esula*), Spotted Knapweed (*Centaurea maculosa*), Russian Knapweed (*Centaurea repens*), Dalmatian Toadflax (*Linaria dalmatica*), and Sulfur Cinquefoil (*Potentilla recta*). You can view the section-based weed information at <http://nris.state.mt.us/mapper/>. NRIS and NHP staffs are working with Department of Agriculture personnel to include additional species.

- Allan Cox



**Spotted Knapweed**

Section-based map of Spotted Knapweed presence in Montana

## From the Director:

### Heritage Program Potentially Impacted by State Budget Cuts

Nearly every day we read about revenue shortfalls and proposed budget cuts throughout state government. The Natural Heritage Program is, like other state programs, vulnerable to these budget-cutting measures, since about half of our funding comes from a contract with the State Library, as part of the Natural Resource Information System (NRIS). On the plus side, both NRIS and the Heritage Program have complex funding structures that, while difficult to explain and administer, provide the advantage of diversification. NRIS' legislative appropriation is made up of a variety of sources including the General Fund, the RIT Fund, and the Departments of Fish Wildlife & Parks, Transportation, Environmental Quality, Natural Resources & Conservation, and the University System. While this diversity in funding makes NRIS (and therefore Heritage) less vulnerable to across-the-board funding cuts, significant losses in any of these funding sources would still have a serious impact on operations and services.

In a pro-active response the Governor's request for agency budget cuts, the State

Library has proposed a cost-saving reorganization that builds on NRIS' high-tech model of digital information services. The Library would integrate the NRIS Program and the Library Information Services Division to create a digital information service that delivers a broad array of data documents and reference materials to Montana's decision-makers and citizens, emphasizing digital formats and search tools wherever possible. By moving toward increasingly digital formats, Library managers believe that maintenance and distribution costs can be reduced and available funds used more effectively to "virtually deliver" more resources directly to users' desktops. The reorganization would generate a cost-savings of about \$130,000 in General Funds. Transition to the new digital library focus is still in the planning stage, and poses significant challenges as well as great promise. You can read more about it on the State Library website at:

<http://msl.state.mt.us/digitallibraryinitiative.htm>

What else are we doing to help ensure continuity of Heritage Program services? One is to continue pointing out that

Heritage, and NRIS overall, are extremely economical programs. We accomplish a great deal with a relatively small amount of state funding, partly because we leverage those state funds through grants and contracts to essentially double the state's investment – and we use the power of technology to deliver our services as efficiently and broadly as possible. We will also continue to share with decision-makers what our users tell us about how important our services are to effective government and economic development. In the recent NRIS Web Survey, 80% of respondents rated NRIS services valuable or essential to their work. We also received some great suggestions and a lot of compliments and encouragement to "keep up the good work." Thanks to everyone who participated! And remember – your comments and suggestions are ALWAYS welcome!

If you have questions about the Heritage Program budget or want to express concerns, please feel free to call or send an email. We would be glad to send email updates to anyone who would like to be kept informed. ([scrispin@state.mt.us](mailto:scrispin@state.mt.us))

- Sue Crispin

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## Ecology Highlights

During the 2002 field season, Heritage ecologists worked across northern Montana, from the prairie potholes in the Milk River country to the wet Purcell Mountains along the Montana-Idaho border. West of the Continental Divide, we surveyed peatlands and grasslands in the Kootenai National Forest. Peatlands, also known as fens or bogs, are common northward in Canada but very rare in Montana, where they harbor a disproportionate number of plant Species of Concern. Forty plant species tracked by the Heritage Program are entirely or mostly restricted to peatlands. We're assessing the effects of roading and timber harvest on peatlands to help the Forest Service better protect these fascinating wetlands.

Farther east, we finished our second field season in Glacier National Park where we are helping the National Park Service, U.S. Geological Survey, and NatureServe to



**Floating mat around Rainbow Lake, Kootenai National Forest**

develop a classification of existing plant communities in the park. This winter we will be developing the classification and writing community descriptions. This work will contribute to the National Vegetation Classification, which is an effort to standardize vegetation classification and description across the entire United States.

This year we also became involved in a new collaborative effort with the Montana

Wetland Monitoring and Assessment Workgroup, a collaboration of the Montana Department of Environmental Quality, Environmental Protection Agency, and University of Montana. The Heritage Program's role is to help develop indices of biological integrity and rapid assessment protocols for evaluating the health of Montana's wetlands. We began this project by surveying prairie potholes and small order streams in the Milk River watershed of north-central Montana. This winter we will begin analyzing field data to identify how vegetation in these wetlands responds to various disturbances.

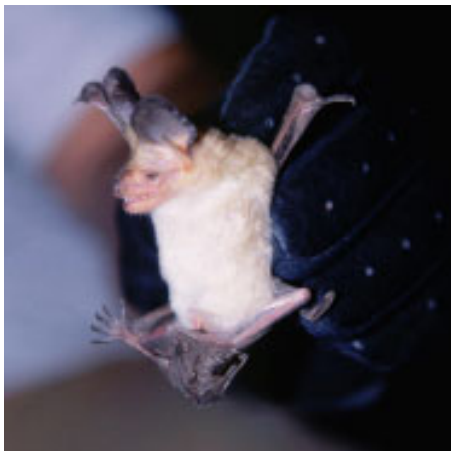
New information regarding Community Ecology is now available on our website. See the "What's New" section on page 1 or visit our website at: <http://nhp.nris.state.mt.us/Community/index.htm>

- Marc Jones

## Zoology Highlights

During the summer of 2002, Zoologists Paul Hendricks and I conducted a variety of field investigations throughout eastern Montana. We started in north Valley County during late May, with breeding bird surveys for grassland birds — the second of a two-year project with the BLM. This year, we had the good fortune to witness a migratory bird “fallout” in advance of a late May snowstorm and documented such eastern rarities as Scarlet Tanager, several Philadelphia Vireos and hundreds of Tennessee Warblers — one of the best days of birding I have ever had. Paul got to experience the joys of field work when the worst of the mosquito swarms coincided with some of the hotter days at the end of June. Those of you who have experienced camping and working under these conditions can sympathize with him and those of you who haven’t really can’t imagine the suffering. (We are still finding mosquito remains in the pages of our field notes.) On the positive side, we found that a number of broadly declining grassland birds, such as Chestnut-collared Longspur and Baird’s Sparrow, were among the most common birds in this area. We’re now analyzing the data and relating grassland bird distribution and abundance to management of the rangelands; a final report will be available next spring.

At the end of June, we moved on to the Pryor Mountains in south-central Montana to continue surveys of bat distribution and abundance in this unique Montana mountain range. Coburn Currier, our new Project Support Biologist joined us for this work. Among the bats we captured was Pallid Bat (G5/S1), one of Montana’s rarer



Pallid Bat (*Antrozous pallidus*)

bat species. We also documented a number of Spotted Bats (G4/S1), although we didn’t catch any in our nets. This species can be detected by its audible call while it is flying overhead. Bill Pryor of Montana Fish, Wildlife and Parks visited us for a couple of nights and produced a “Wildlife Minute” video segment on the bats and our work that aired on many of the local television stations this fall.

Our other major zoological field work last summer was an inventory of sagebrush-associated small mammals, funded in part through the Montana Fish, Wildlife and Parks Wildlife Conservation Restoration Program. The purpose of the project is to better document the distribution of a variety of small mammals associated with sagebrush habitats, to assist with effective management of sagebrush ecosystems. Our study sites were scattered throughout the state, from the Milk River north of Malta to a private ranch south of Birney, and from Winnett to Ovando. We picked up new county records for a variety of small mammal species. However, one that we did not find at all is the sagebrush vole. We hope to continue this work next summer and expand the number of sampling sites.

We’re now back at our cubicles finishing up data analysis and report writing for last summer’s work. We are also developing a new web-based field guide for Montana’s Animal Species of Concern, to provide users with up-to-date information on identification, ecology and distribution. Paul is also finishing a report on the status and management of rare land invertebrates (such as the marbled jumping slug, G1G3/S1S3) on Forest Service lands. This group of critters includes some of the rarest animals in Montana, several of which are not found anywhere else in the world.

We are already planning for next summer. We will be continuing bat surveys throughout eastern Montana, including a study of highway bridges, funded by the Montana Department of Transportation, and surveys of bats inhabiting riparian areas, funded by the Bureau of Land Management. Some early summer bird surveys will round out our plans for another productive summer of animal investigations.

- John Carlson

## 2003 Animal List Revision Available in January

Thanks to everyone who provided input on Animal Species of Concern. Suggestions have been reviewed and the 2003 Animal List will be available in early January.

*Please let us know if you want to receive an email when the new list is published.*

[jocarlson@state.mt.us](mailto:jocarlson@state.mt.us)

## Who’s New at Montana Heritage

Two new staff members have joined the Natural Heritage Program since our last newsletter. Russ Fillner is our new Finance Administrator. Russ started with the Heritage staff at the end of September. He is a graduate of Montana State University and a long-time Helena resident. Russ brings a great deal of experience to the Heritage Program including accounting work for the State and several non-profit organizations. He is a licenced C.P.A. and has done private consulting work as well. Russ is a very valuable addition to the program. Coburn Currier joined the MTNHP staff as the new Project Support Biologist in late May. Coburn comes to us from Michigan where he has worked as a Zoology Assistant for the Michigan Heritage Program and is finishing his Masters in Conservation Biology at Central Michigan University. We feel his knowledge and experience in both the scientific and technological fields will help us “bridge the gap” between biology and technology. MTNHP would like to welcome both Russ and Coburn as well as their families to MTNHP.



## Observations Wanted!!

**REMINDER:** Please remember to send in records for any Montana Species of Concern that you observed or collected during 2002 so we can update the MTNHP databases. For those of you who have already sent in your records, a BIG THANKS!



## Botany Highlights

Though we lacked a Heritage staff botanist during the 2002 field season, a good deal of field inventory work took place thanks to help from consulting botanists. Pete Lesica worked on our biggest project, to better document globally significant plant Species of Concern on BLM lands in southwest Montana (primarily Beaverhead County). That region supports the highest concentration of Montana-endemic plants in the entire state. Pete's work turned up some excellent results, including the rediscovery of *Primula alcalina*, Idaho primrose, which had been collected over 50 years ago near Monida, but not found since then in Montana and thought to be extirpated from the state. Idaho primrose



**Primula alcalina (Idaho Primrose)**

is ranked as "G1" by the natural heritage network, and is restricted to a few locations in Idaho and Montana. It grows in wet, alkaline meadows of high intermontane valleys, along creeks and in headwaters areas.

Pete's other "finds" included *Allium parvum* (small onion; G5/S2), previously known in Montana only from Ravalli County; *Mentzelia montana* (G4/SH), known previously in Montana only from a historical record in Custer County, and *Braya humilis* (white-bract stickleleaf; G5/S1), a small mustard with localized populations in Colorado and Montana, far disjunct from its primary arctic-alpine range in northern Canada.

We decided to delay the next Plant Species of Concern list update until this winter, and we're now aiming for early 2003. Based on feedback received while soliciting review, it became clear that releasing an update during

or just before the field season is not ideal, since field plans are already made and it is difficult to integrate new information – especially list additions – into the summer's work.

We hope to have a new Program Botanist on board by early in 2003. A number of excellent candidates applied, however our selection progress has been slow because we have been working on filling several positions concurrently. Stay tuned...!

- Sue Crispin

## Vegetation of Powder River County

Southeastern Montana, including Powder River County, has some of the most extensive range landscapes in the state. A long history of ranching has resulted in large expanses of good quality rangelands with healthy, diverse populations of native wildlife and high ecological integrity. However, the biological character and richness of this region has not been well documented. During the summers of 2000 and 2001, Heritage botany and ecology staff (primarily our former Botanist, Bonnie Heidel) conducted surveys to better document plant Species of Concern and native vegetation types – particularly those of limited range and/or in exceptional condition. Our surveys emphasized major blocks of land administered by BLM, but



**Powder River valley near Moorhead, MT**

also included other public lands near or continuous with BLM blocks.

The results of this work included five additional plant Species of Concern documented in the County. The discovery of many new rare plant populations has already resulted in one species (Little Indian breadroot, *Psoralea hypogymnea*) being dropped from the Montana Species of Concern list. Four other plant species may

be considered for removal from BLM "Watch" status, because so many new populations were discovered.

We also documented over 40 native vegetation types in the County. Several are especially well-represented on BLM lands and are significant because of their size and good condition. Others are uncommon or restricted in range. In addition to documenting significant vegetation communities, we also identified several areas where one or more types were especially well represented – i.e., in good or excellent condition within an ecologically intact landscape.

The results of this study have been published in a report entitled "Plant Species of Concern and Plant Associations of Powder River County," available on the Heritage website. <http://nhp.nris.state.mt.us/reports.htm>

- Sue Crispin

## Montana Natural Heritage Program

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